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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------------|------------------|
| 09/988,650 | 11/20/2001 | Moo-Jong Lim | 8733.536.00-US (PATENT) | 8857 |
| 30827 | 7590 | 06/21/2004 | EXAMINER | |
| MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006 | | | TRAN, HENRY N | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2674 | |
| DATE MAILED: 06/21/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,650

Applicant(s)

LIM ET AL.

Examiner

HENRY N TRAN

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-16, 18 and 20 is/are rejected.
7) ☒ Claim(s) 17 and 19 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 05 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The notice of appeal filed on 4/5/04 (Paper No. 10) is not acceptable under 37 CFR 1.191(a) because at the time of filing the notice of appeal, there has been no second or final rejection in this patent application. The notice of appeal was not entered; and it has been placed in the file record, see MPEP § 1205.
2. The Amendment received 4/5/04 (Paper No. 9) has been entered. Claims 1 to 20 remain pending in this application. Applicants' Remarks/Arguments have been fully considered, with the results set forth as follows.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action mailed 10/6/03 (Paper No. 7).
4. Claims 1-12 stand rejected under 35 U.S.C. 102(e) as being anticipated by Yoshihara et al (U.S. Patent No. 6,115,016) as recited in the prior Office action; wherein, Fig. 5 shows the signal processing circuit 31 connected to the data driver 32 that is read on the newly added claimed feature of the independent claim 1.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 13-16, 18 and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihara et al (U.S. Patent No. 6,115,016) in view of Takabayashi (U.S. Patent No. 6,573,882) as recited in the above identified prior Office action.

Allowable Subject Matter

7. Claims 17 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. The applicant argued that the prior art, the Yoshihara et al invention does not teach: (i) "...a signal processing circuit connected to [a] data input driver and electrically controlling a luminance of each of the light sources.", or (ii) the signal processing circuit 31 controls "a luminance value of each of the light source; and the Takabayashi invention does not teach: "converting frame-based image signal data into luminance values Ra, Ga, and Ba that are to be produced during sub-frame period", see pages 6-9 of the above identified Amendment. The applicant's arguments have been fully considered but they are not persuasive because of the following reasons:

(i) Yoshihara et al clearly teach the use of signal processing circuit (31) connected to the data driver (32) and electrically controlling a luminance of each of the light sources R, G, and B of the back light 22 by utilizing the synchronous signal SYN for turning ON or OFF each of the light source individually, see figures 4 and 5;

(ii) Yoshihara et al also clearly teach that the signal processing circuit 31 controls a luminance value of each of the light source using the frame having sub-frames, see figure 5 and table 1 of columns 9 and 10; and

(iii) Takabayashi invention does teach a back lighting method for driving a liquid crystal display device 3 using R, G, and B light sources, wherein frame-based image data are read for

Art Unit: 2674

each frame F by utilizing three sub-fields illustrated as S1, S2, and S3; the LC alignments and light sources R, G, and B are synchronously switching to provide average luminance values by varying the ON/OFF timings: t1, t2, and t3, for obtaining different average luminance values that are to be produced during sub-frame periods, see figure 1. The rejections of the claims 1-16, 18 and 20 are therefore maintained as indicated above.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It is U.S. Pub. No. 2002/0000960 A1, which teaches methods and an apparatus for driving a LCD device using color back light sources with frame-based image signal data.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY N. TRAN whose telephone number is 703-308-8410. The examiner can normally be reached on Mon – Fri from 8:00AM – 4:30PM.

Art Unit: 2674

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD A. HJERPE, can be reached at 703-305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

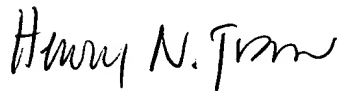
Washington, D.C. 20231

or fax to:

703-872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.



HENRY N. TRAN
Primary Examiner
Art Unit 2674

Hnt
June 16, 2004